

## Self managing residence networks

Over the last seven years Lancaster University has evolved its Residence Network (RESNET) from a simple, manually administered service for 100 users to a self managing system with 6,000 users.

Scalability problems of a small system have forced several major changes to network and system design. The system now has the ability to manage different classes of user from Lancaster University student to visiting staff and conference delegates to external students in a multi hardware vendor environment.

Handling an increasing number of external users and more serious virus threats have caused a move from switch port user management to MAC based user tracking. The authentication system drives all other systems by linking users to MAC addresses. Once a validation occurs updates rapidly propagate to DHCP, NAT and MAC based authentication systems. This allows known MAC addresses and, therefore, known users to access network resources.

As the user management systems near completion further service development is progressing. Services in the process of being deployed include multicast television and radio services and trials of delivering ADSL2+ to student houses within Lancaster.